THE EFFECT OF HYPERBARIC OXYGEN THERAPY STARTING TIME ON LUNG HISTOPATHOLOGYCAL CHANGES AFTER ISCHEMIA-REPERFUSION INJURY IN THE HIND LIMB OF RABBITS (*Oryctolagus cuniculus*) AS ANIMAL MODEL

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ABSTRACT

The aim of this study is to prove the effectiveness of hyperbaric oxygen therapy (HBOT) starting time on lung histopathologycal changes in lung injury case after ischemia-reperfusion in the hindlimb of rabbit. This research used a complete randomized design with 4 groups and 6 repetitions each. After ligation in femoral artery for 6 hours, reperfusion was performed for 100 minutes (G1), HBOT for 90 minutes after 10 minutes of reperfusion (G2), 150 minutes of reperfusion (G3) and HBOT for 90 minutes after 60 minutes of reperfusion (G4). Then necropsy was performed and neutrophils in alveolar and interstitial space, hyaline membrane, proteinaceous debris and alveolar wall thickening were given scores. The statistical tests by Kruskal Wallis and Mann Whitney U result in significant differences ($p<0.05$) between G1 and G2, also G3 and G4, but no significant differences between G1 and G3, also G2 and G4. Based on these results, we conclude that HBOT can reduce neutrophils, hyaline membrane, proteinaceous debris and alveolar septal thickening of alveolar histopathological feature of lung injury after ischemia-reperfusion in hind limb of rabbits regardless of the starting time.

***Keywords* : lung injury, ischemia-reperfusion, multiorgan dysfunction syndrome, hyperbaric oxygen therapy, neutrophils**

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